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 TO *7/1/54* Motor Transportation Division, Office of Defense Transportation

FROM: Department of Agriculture, Committee on Conservation of Trucks and Tires for Agricultural Transportation

SUBJECT: Possible Economies in Use of Motor Equipment in Connection with the Ginning and Marketing of the Cotton Crop

After careful study of available information relating to transportation requirements and practices involved in the ginning and marketing of cotton, the Department of Agriculture Committee on Conservation of Trucks and Tires for Agricultural Transportation recommends the following plan for effecting substantial economies in the use of motor vehicles for the movement of the cotton crop, namely:

1. Organization of cotton farmers on the basis of gin communities for voluntary cooperative action in promoting the most efficient transportation of seed cotton from farm to gin along these lines:

a. Substitution of wagon hauling for movement by motor vehicles wherever practicable.

b. Encouragement of maximum loadings as well as increased use of large capacity motor vehicles.

c. Cooperative use and routing of available transportation facilities.

d. Reduction in distance of movement.

2. Committees composed of farmers and other interested groups be appointed immediately in each county by the United States Department of Agriculture County War Board. Such committees in cotton-producing counties to function as follows:

a. Direct and advise the organization of farmers by ginning-community groups for transportation of seed cotton to gins.

b. Submit to ginning-community groups orders and recommendations issued through the Department of Agriculture relative to transportation practices.

c. Appraise local practices connected with transporting baled lint and cottonseed and inform interested groups of the needed economies they will be expected to achieve.

d. Report willful violators of the voluntary plan to the local officials rationing tires and motor equipment.

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3. Appointment by the State War Board in each State of a special committee to transmit details and recommendations in connection with the program directly to county committees. These State committees in cotton growing States would enlist the support of trade associations and governmental agencies concerned and outline the extent of cooperation expected in curbing wasteful transportation practices which transcend county lines such as is prevalent frequently in the movement of cottonseed to crushing plants.

4. In the case of the transportation of cottonseed from gins to crushing mills, especially, voluntary action might not produce the desired results. If compulsory action is necessary, either for cottonseed or other cotton products, economies could be enforced by

a. Restriction of territory served by marketing or processing agencies.

b. Rationing or adjustments in the rationing of motor fuels and equipment.

5. Use of the radio, newspapers, farm journals, and trade publications as a means of arousing interest in the program and of stressing the seriousness of the situation. Such information would be prepared to emphasize regional transportation problems.

I

Situation with Regard to Transporting Seed Cotton,
Cotton Bales, and Cottonseed

Much of the cotton crop is grown at considerable distances from major domestic consuming centers, and generally the longer hauls to mills are made by rail. On the other hand, motor vehicles are used extensively for transportation during the primary stages of marketing and for the shorter hauls to mills.

In view of the critical scarcity of tires and the need for conserving fuel and repair parts for motor vehicles, economical transportation of the 1942 crop is a vital necessity. Certain necessary hauling and concentration can be performed in a practical manner only by truck. Also, movement of cotton by truck for short distances over routes paralleling rail lines perhaps will need to be continued in many instances because the railroads apparently will be taxed to capacity by traffic absolutely essential to the war effort. Obviously, proposals for effecting economies in the operation of motor vehicles must be considered in the light of existing requirements and practices.

Movement of a cotton crop into marketing channels involves the handling of three products: (1) Seed cotton, (2) baled lint, and (3) cottonseed.

As the first step, seed cotton as harvested on the farm is hauled to a gin for separation of the lint and seed and the baling of the lint. After ginning, the baled lint is first transported for delivery to buyers by farmers and is then assembled at storage centers or nearby mill locations. Cottonseed

resulting from the ginning operation is either hauled back to the farm chiefly for planting purposes, or is moved from the gin to cotton oil mills for crushing. Methods of transportation utilized for performing these necessary steps in marketing vary widely between producing regions according to differences in production practices, marketing facilities, and the remoteness from or proximity to plants processing or consuming each product. These regional conditions impose definite limits on the extent to which present practices may be revised.

Seed cotton. -- Seed cotton from the approximately 2 million cotton farms is hauled an average distance of about 5 miles to the approximately 11,600 active gins serving the Cotton Belt. This movement is very seasonal, about 70 percent of the crop frequently being ginned within the months of September and October. The crop usually matures within a relatively short period and seed cotton must be harvested promptly in order to avoid serious deterioration in quality from exposure to the weather. Because of the limited storage facilities for seed cotton on farms, the crop is transported to gins promptly after it is harvested.

During 1939-40 and 1940-41, about 1434 pounds of seed cotton were needed on the average to turn out each of the 12.2 million 500-pound gross-weight bales produced, making a total seasonal movement to gins of about 8.8 million tons of seed cotton. In terms of weight and distance, this volume of hauling represented 44.0 million ton-miles per season.

Seed cotton usually is brought to the gin by farmers. During 1940-41, about 86 percent of the crop was hauled by farmers, approximately 8 percent was trucked by ginners, and about 6 percent was carried by commercial truckers. More than two-thirds of the crop is brought to the gin by motor vehicles.

Seed cotton hauling by ginners usually is done for competitive purposes particularly in sections where there is a considerable over supply of ginning facilities. Such hauling seldom is absorbed in the ginning charge but separate charges made for the service customarily amount to only about one-half of prevailing commercial charges. Farmers hire commercial truckers to haul seed cotton usually as a time saving device or when they themselves do not have adequate equipment.

In the Southeast (Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia), about seven-tenths of the crop is hauled to the gin by farmers, wagons being used to slightly greater extent than motor vehicles. Nearly one-fourth of the seed cotton is trucked by ginners and the remainder is hauled by commercial truckers.

Farmers in the Mid-South (Arkansas, Louisiana, Mississippi, Missouri, and Tennessee) bring nine-tenths of the crop to the gin, and most of the remainder is moved by commercial truckers. In 1940-41, hauling by farmers in this region was divided about equally between wagons and motor vehicles but preliminary data for 1941-42 indicate some increase in the use of trucks and trailers.

In the Southwest (Oklahoma and Texas), farmers haul slightly more than four-fifths of the seed cotton to the gin, the remainder being hauled almost exclusively by commercial truckers. Only about one-tenth of the crop is brought in by wagon.

Hauling of seed cotton in the Far-West (Arizona, California, and New Mexico), is performed almost entirely by farmers with motor vehicles. In this region, use of large capacity trucks carrying several bale lots of seed cotton is customary.

Among the special problems in transporting seed cotton are: (1) The large number of farmers involved, (2) the scarcity of work animals in sections where mechanized cultivation is customary, (3) the large number of trucks, trailers, and wagons with only one-bale capacity, (4) the inadvisability of increasing bale weights, and (5) the strictly seasonal nature of the movement.

Baled lint. -- Transportation of baled lint during initial stages of marketing relates chiefly to delivery of bales to buyers by farmers and assembly of cotton at storage centers. Generally, cotton reshipped from large markets moves in carload lots by rail or water.

In 1939-40 and 1940-41, the gross weight of the baled lint averaged 3.1 million tons per season and the average distance covered in delivery of bales from farmers to buyers was about 5 miles. On a combined weight-distance basis, 15.5 million ton-miles were required for this type of movement each season.

Although bales are delivered to buyers occasionally at cotton mills and more frequently at compresses, most of the crop is received by buyers at gin yards, cotton yards, country warehouses, or loading platforms. About two-fifths of the crop is accepted by buyers on the gin yard and about one-fourth is moved less than one mile. In certain sections, ginnermen often truck bales to destinations desired by farmers such as warehouses, street markets, or loading platforms.

Farmers in other sections normally move bales to the required locations in the same conveyances used for hauling seed cotton to the gin. There are, however, some minor exceptions to this practice. Plantation operators in the Mid-South, especially in Mississippi, occasionally deliver cotton for sale at points from 50 to 100 miles from the gin usually making such shipments by rail. In the Southeast, some farmers deliver bales directly to cotton mills with their own wagons or motor vehicles.

The major problem in effecting economies in the transportation of baled lint for delivery to buyers is that many farmers, pressed by the necessity for ready cash, attempt to sell their cotton with the least possible delay. For this reason, farmers frequently haul cotton individually since they prefer not to delay sale until bales can be assembled for large scale movement by truck or rail.

Customarily, bales after coming into the possession of buyers, are assembled at large storage centers although in the Southeast, a considerable volume of cotton is moved from gins or small markets directly to nearby mills. Estimates indicate that an average haul of about 50 miles is usual in this secondary movement.

Marketing agencies usually make effective use of transportation facilities for such hauls and generally base a choice between alternative facilities on comparative costs. Cotton bales moving to storage centers generally go by rail if possible and direct movement to nearby mills frequently is by truck.

Cottonseed. -- The quantity of cottonseed resulting from the ginning operation has averaged about 5.4 million tons during 1939-40 and 1940-41. Of this total, slightly more than one-fifth was hauled back to the farm over the same average distance of 5 miles involved in bringing the seed cotton to the gin, usually on the return trip and with the same vehicle. Where, however, ginner-hauling is prevalent, special trips by trucks are made at times to deliver seed back to the farm.

The major proportion of the seed is sold by farmers customarily at the gin. According to available estimates, the average haul from the gin to the crushing plant is about 30 miles. Although large quantities of seed go to local crushing plants, an appreciable volume is shipped to large so-called terminal plants over routes of from 50 miles to as much as 300 miles.

Transportation of seed to crushing plants is performed chiefly under the direction of ginners or crushers either by truck or by rail, depending upon distances involved and whether or not gins are adjacent to railroads. In view of available estimates, about three-fifths of the total tonnage of seed apparently is received at crushing plants by truck. A large proportion of this truck-hauling is from country gins, but, in some sections, a considerable volume of seed is trucked to mills from nearby rail points and occasionally such movement involves hauls of several hundred miles.

The over-supply of crushing facilities and the resulting intense competition between units of the industry are the outstanding problems relating to the transportation of cottonseed. From 1936-37 to 1940-41, an average of 456 crushing plants operated seasonally. Of this number, about 32 percent crushed less than 5,000 tons seasonally per plant yet 13 percent crushed more than 20,000 tons per plant. In order to maintain volume, some of the terminal mills send out trucks long distances to gather and bring in seed to their plants with the result that many local plants are compelled to operate only for a short period during each year.

Summary of transportation requirements for 1942 cotton crop. -- Requirements for transporting the 1942 cotton crop apparently will be slightly greater than for the past several crops since the current acreage will be somewhat larger. On the basis of estimated production, transportation of the 1942-43 cotton crop likely will involve: (1) 47.5 million ton-miles for moving seed cotton from farms to gins, (2) 16.5 million ton-miles for delivering bales to first-buyers, (3) 165.0 million ton-miles for assembling bales at concentration points, (4) 7.0 million ton-miles for returning seed to farms, and (5) 186.0 million ton-miles for moving seed from gins to crushing mills.

II

Recommendation for Effecting Economies in Transportation

Transportation requirements for seed cotton, baled lint, and cottonseed differ in so many respects that separate recommendations for each product seem advisable. Although it is not feasible to estimate quantitatively the extent of savings in transportation possible for each product, it is believed that substantial economies can be obtained particularly for seed cotton and cottonseed.

Seed cotton. -- Appreciable economies in transporting seed cotton from farms to gins apparently can be achieved by voluntary cooperative action on the part of farmers and ginnermen along the following lines: (1) Substitution of wagon hauling for movement by motor vehicles where practicable; (2) encouragement of maximum loadings as well as use of large capacity motor vehicles; (3) cooperative use and routing of available transportation facilities, and (4) reduction in distance of movement.

Opportunities for farmers to substitute wagon-hauling for motor transportation in bringing seed cotton to the gin appears greatest in the Southeast and Mid-South where wagons are available to a greater extent. Such substitution, however, will be limited somewhat by the fact that farm wagons often have not been replaced during recent years. On this account, trailers designed for motor travel should be converted to horse-drawn vehicles where possible.

In the Southwest and the Far-West, the larger extent of farm mechanization imposes definite limits on the substitution of wagons for trucks. In the Far-West, particularly, where large trucks carrying several bale lots of seed cotton are used customarily, no appreciable change in hauling practices is likely.

In all sections, every available wagon and team of work stock must be put to full use. On farms requiring several days of harvesting for accumulation of a bale lot of seed cotton, daily pickings should be stored in farm buildings or cotton houses instead of in cotton wagons. By this means, wagons can be kept free for the hauling of seed cotton by neighbors.

Where wagon-hauling is not feasible, practically all farmers can effect savings in motor transportation equipment by:

1. Use of largest capacity equipment available. -- On some farms, small car-drawn trailers are used when large trucks capable of carrying heavier loads are available. Also many truck or trailer bodies can be converted or enlarged to give greater capacity.

2. Loading of motor vehicles to full capacity. -- Farmers frequently bring one bale of seed cotton to the gin in trucks having a capacity of two bales or more. Obviously, the loading of such conveyances to maximum capacity will reduce the number of trips required to transport the crop to the gin. By building cotton houses or emergency storage shelters, seed cotton can be accumulated without danger of damage until a full truckload is harvested.

3. Cooperative use of motor vehicles. -- Since the average individual cotton grower produces each season only about 5 or 6 bales of cotton and the average haul to the gin is about 5 miles, the average annual mileage represented in hauling seed cotton to gins is only about 50 or 60 miles per farm even when single bale lots of seed cotton are hauled. Obviously, this amount of hauling will not justify the operation of trucks or trailers by individual farmers under existing circumstances. Any motor vehicles maintained in operation must be put to a highly efficient use and serve the greatest possible number of farmers in a community.

Farmers having small trucks or trailers should arrange for hauling with neighbors owning large trucks. By means of partitions placed in truck bodies, seed cotton owned by each individual can be kept separate. In a compact ginning community, or in the case of a gin operated cooperatively by farmers, a small fleet of trucks to serve all patrons can be maintained with definite hauling schedules and routes predetermined according to the most economical employment of equipment. Also, in this connection, trailers could be pulled behind loaded trucks or a train of coupled trailers could be drawn by steel-wheeled tractors along unpaved roads or by rubber-tired tractors on improved highways. Cooperative action in group hauling also conserves man power and time for harvesting during a period of impending labor scarcity.

4. Reduction in distance of movement. -- Many farmers customarily haul seed cotton past several gins on the way to the gin of their choice. Although farmers frequently patronize a gin for personal reasons, considerable economy in motor transportation would be realized if farmers would select gins according to accessibility. Such shifts in gin customers likely would be somewhat compensatory.

Ginners who haul seed cotton for their patrons can aid by adopting certain definite practices namely: (1) Make a full and separate charge for such hauling in all cases, and (2) base such charges on the distance of haul. If charges for hauling are listed as a separate item and are not scaled down for competitive purposes, farmers will better understand the actual expense involved for the service and perform the task themselves when advisable. Also, if charges are levied on a mileage basis, seed cotton will be diverted to the more economical ginning sites without any appreciable loss of patronage by most ginners.

Transportation of seed cotton to the gin by commercial truckers is most prevalent in the Southwest and is performed there usually by crews of pickers. Apparently, since these itinerant pickers depend entirely upon trucks for travel, they will practice economy in the use of these vehicles.

The success of such a voluntary program as outlined would be greatly strengthened by issuing priorities for tires and repair parts only to farmers or ginners capable of making full use of the equipment or to groups of farmers making joint use of motor vehicles. By refusing to grant priorities in the case of inefficient transportation, considerable incentive would be provided for cooperative arrangements between neighbors or between ginners and patrons.

Lint cotton. -- Usually distances involved in transporting baled lint from gins for delivery to buyers is not great. In some localities, however, ginners truck bales to nearby warehouses when farmers readily could perform the hauling with practically no additional travel. Also, in some instances, lengthy trips are made with medium capacity trucks when bigger trucks would mean fewer trips. At many markets, farmers individually haul bales considerable distances in order to complete the sale of their cotton as soon as possible. In such cases, farmers can profitably resort to cooperative group hauling or allow the bales to assemble at the gin and reimburse the ginner for providing a daily trucking service.

In transporting baled lint from small markets to storage centers or nearby mills, short distance or small volume truck hauling over routes served by rail lines apparently will need to be continued on account of the probable shortage of freight cars. Where, however, distances are great and maximum carloadings are possible, rail movement apparently will be preferable. Loading of trucks to full capacity, the use of large capacity vehicles, carefully planned routings, and the refusal of priorities in cases of wasteful practices appear to represent the most logical approach to the problem in view of the rail situation.

Cottonseed. -- The movement of cottonseed back to farms from gins usually involves no additional travel. One exception is when ginners make a special trip to deliver seed back to the farm after hauling the seed cotton to the gin. Ginners can save considerable use of motor vehicles by returning seed only when a full load of seed cotton can be picked up for hauling to the gin.

The chief problem in connection with movement of seed from gins to crushing plants is the uneconomical use of existing crushing facilities and the long hauls involved in shipping seed to large capacity mills. Substantial savings would result if crushing mills could be induced to confine seed buying operations to their immediate vicinity. It is highly improbable, however, that the various units of the industry could agree mutually on any such partition of territory.

Alternative compulsory program. -- All recommendations listed have been based on a program of voluntary cooperation. The possibility of adopting a compulsory plan of economy must not be overlooked. Several alternatives may be considered such as: (1) Rationing or adjusted rationing of motor fuels and equipment; (2) restriction of territory served by marketing agencies and processing plants, and (3) refusal of priorities for equipment to parties not making economical use of such equipment on a voluntary basis.

Any rationing plan should be flexible enough to fit local requirements within reasonable limits. For example, in rationing gasoline for bringing seed cotton to the gin, quotas should be established by counties and recognition should be given to limitations imposed by factors such as the production of cotton, number of gins, and work animals available for wagon hauling.

Although restriction of the territory served by each gin, cotton warehouse, or seed crushing mill would arouse strenuous opposition and present difficult organizational and administrative problems, very marked savings in transportation would result from this action. Probably such a step would neither be feasible

nor necessary in the case of gins and warehouses. In the case of the cottonseed crushing industry, such a plan might be required to force any real economies. In order to accomplish such a plan, ceilings would perhaps have to be established on prices for cotton and cottonseed and on services provided by ginnermen and warehousemen.

The present system of granting priorities for tires and repair parts naturally restricts the use of motor vehicles and tends to encourage operation in an economical manner. On the other hand, willful violators of recommendations for voluntary cooperation could be disciplined by being denied replacements.

III

Administration of Transportation Economy Program

In order to secure the fullest extent of cooperation and to permit interested groups in each cotton-growing section to plan transportation economies in the light of local conditions, an organizational framework somewhat as follows seems advisable: (1) Designation of gin communities as the basic unit, (2) appointment of State and county committees, and (3) release of publicity designed to acquaint cotton growers and other interested groups with the acuteness of the situation and the need for immediate action.

The gin provides a logical basis for administration of a program of farm to gin hauling, since all cotton farmers come in direct contact with this one phase of the cotton industry. Although there is some overlapping of ginning territories, farmers patronizing the same gin often form a recognized community, visit the same trading centers, and reside in the same school district. During the cotton season 1941-42, approximately one-fifth of the gin communities in the United States were organized for cotton improvement activities under the Smith-Doxey Act. It is believed that these organizations could assume responsibility for handling a transportation economy program in their respective communities.

On the average a gin usually handles about 1,000 bales per season and represents a rather compact unit for organization. Normally, farmers depend on ginnermen for providing supplementary services in connection with the production and marketing of cotton and regard the ginner as a community leader. Also ginnermen usually are acquainted intimately with their patrons and have detailed knowledge of the transportation facilities owned by each farmer. For these reasons, ginnermen usually are in a position to offer the best solutions for meeting purely local situations and planning the most efficient use of existing equipment.

Each United States Department of Agriculture County War Board would be authorized to appoint a committee on the war-time transportation of agricultural products consisting of farmers and representatives of other interested groups and agencies. In most cotton growing counties, this one crop is of such importance that the membership of the county committee largely would be composed of persons actively allied with the production, ginning, or marketing of cotton thereby insuring adequate attention to transportation problems specifically related to this commodity.

County committees would assume responsibility for the economical movement of seed cotton from farms to gins. Each ginning community would be required to have an active organization for dealing with this problem in a satisfactory manner. Many communities already possess a suitable organizational framework. The county committee would direct each unorganized community to appoint a local committee composed of the ginner and several farmers for the purpose of perfecting the needed organizational set-up.

Local practices involved in transporting baled lint and cottonseed also would be studied by the county committee with the view of eliminating all possible inefficiencies. Groups directing movement of cotton bales and seed such as ginner, cotton buyers, warehousemen and cottonseed crushers should be informed of the needed economies they will be expected to accomplish. In instances where firms or individuals do not cooperate voluntarily, the committee would report all facts in the case to local tire and motor equipment rationing officials.

The county committees on transportation would function under the direction of a State committee on agricultural transportation.

Each State War Board would appoint a special state-wide committee on war-time transportation of agricultural products. The number of members and representation by groups should be left to the discretion of each War Board. The committee should include members affiliated with farm organizations, State agricultural agencies and trade associations.

These State committees would serve as follows:

1. Keep the county committees informed as to orders, recommendations, and information issued through the United States Department of Agriculture.
2. Make a survey of special situations within the State with respect to the transportation of cotton products and advise the county committees of their findings and recommended action.
3. Enlist the support of trade associations and governmental agencies and outline the nature and degree of expected cooperation in connection with transportation inefficiencies transcending county lines such as often exists in the movement of cottonseed to large-volume crushing plants.

The ground work of the program would revolve around publicity and information issued through the State committees. The interest of groups dealing with cotton could be obtained by a special series of radio programs and the publication of articles in daily newspapers, farm papers, and trade journals. Such appeals for voluntary cooperation should emphasize the urgency of the problem and stress that failure of the voluntary plan will result in some form of compulsory action.

Administration of a compulsory plan cannot be outlined fully at this time. Restrictions on the general movement of cotton products by truck would follow the comparable procedure adopted in limiting other types of trucking. Any plan

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for restricting the market areas to be served by units of the cottonseed crushing industry would involve ceilings on cotton and cottonseed prices and charges for ginning services, and should be based on a comprehensive survey of the storage facilities, and crushing capacity represented by each crushing plant.

W. C. Crow
Chairman

